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MOSS EXCHANGE CLUB.

THE THIRTEENTH ANNUAL REPORT.

APRIL, 1908.

Work :

PRINTED BY COULTAS AND VOLANS, LITTLE STONEGATE,
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SECRETARY'S REPORT.

The Club continues in a very flourishing state. During the year we have suffered a great loss in the death of Professor Barker. I sent copies of the new Census Catalogue of British Mosses to him as soon as it was published, and it was sad that he, who had done so much to make it a success, was unable to see the completion of the work. Another valuable Member, the Rev. W. R. Linton, has also passed away.

Mr. Crossland finds he must now give up all his time to the *Fungi*, and so he has resigned his membership. Another valuable Member, Mr. Brinkman, has gone to Canada. Four new Members have been admitted, and Mr. W. H. Pearson has been made an *Honorary Member*, a small token that we can give in recognition of the great work he has done with *Hepatics*. He also wishes to keep in touch with the work of the Club.

As the Balance Sheet will show, the sales of the new Census Catalogue have proved very satisfactory, and I have received numerous letters expressing the highest appreciation of the work. The £12 10s. 6½d. represents the net income from sales after the postage has been deducted. After deducting the various free copies sent out for *review*, we now have in stock 67 interleaved and 108 ordinary copies. The Catalogue was most favourably reviewed in the "Journal of Botany," Nov. 1907. I keep one interleaved copy for the sole purpose of entering *additions* and *corrections* with notes on the value of the new records. Vouchers have been sent in in almost every case, and this fact is noted in the Catalogue.

Members are extremely grateful to Mr. Cleminshaw for the excellent work he has done for two years as Distributer, and, on this second occasion, I am sorry to say, in the presence of domestic trouble.

Mr. H. H. Knight has kindly consented to act as Distributer for the next two years.

Members will feel grateful to Mr. Nicholson for sending the useful translations of the new species at the end of the Report.

WM. INGHAM, *Hon. Secretary.*

YORK, 7th April, 1908.

DISTRIBUTER'S REPORT.

Contributions were received from 29 Members, and 34 Members participated in the distribution. The number of packets received was somewhat less than last year and the number of contributors also.

It was a pleasure to be able to distribute, through the kindness of Mr. Nicholson, a new Moss, and several Hepatics new to Britain. The Report contains several instances of new V.C. Records, especially in Hepatics.

The quality of specimens and of packets in most cases left little or nothing to be desired, but in some cases there was still room for improvement both in quality of paper and in size and condition of packets.

The labours of the Distributer are interesting though considerable, and in the interest of my successor, Mr. H. H. Knight, I ask that more attention should be paid to some requests which I propose to circulate with the Desiderata list.

I have endeavoured to carry out an idea, which was originated by Mr. D. A. Jones, of supplying specimens to members who wanted plants marked 'not wanted' in the circulating Desiderata list, and by the kindness of members to whom I applied for specimens, I have been able to supply a fair number to satisfy such wants. Members who still require specimens of plants marked 'not wanted' will save the Distributer trouble if they take notice of the directions circulated with the Desiderata lists. Similar directions were circulated last year, but I am afraid they were not understood or were forgotten.

Several plants recorded in the Report for 1907 or for 1906 are not again recorded in this report.

It would save trouble if *all* Members used the new Census Catalogue of Mosses and Hepatics. A List of Mosses and Hepatics printed without Census numbers—one column to a page—would, I think, be useful for exchange purposes.

The thanks of the Club are due to Messrs. Ingham, Macvicar, Meldrum, Nicholson, and Wheldon for acting as Referees, and to Mr. Dixon for acting as general Referee; and I beg to thank the Referees for the trouble taken to verify the names of the number of single specimens sent to supply special wants.

E. CLEMINSHAW, *Distributer*.

MOSSES AND HEPATICS FOR DISTRIBUTION, 1908.

	MOSSES.		HEPATICS.		TOTAL.	
	Species and Vars.	Packets.	Species and Vars.	Packets.	Species and Vars.	Packets
Miss E. Armitage ...	26	160	11	66	37	226
Mr. H. Beesley ...	20	136	—	—	20	136
Mr. A. Brinkman ...	13	97	4	31	17	128
Mr. W. H. Burrell ...	7	94	—	—	7	94
Mr. F. J. Chittenden ...	21	92	—	—	21	92
Mr. E. Cleminshaw ...	5	38	—	—	5	38
Mr. Ll. J. Cocks ...	4	19	2	15	6	34
Mr. H. Darton ...	20	106	—	—	20	106
Mr. T. Dennis ...	1	8	—	—	1	8
Mr. H. N. Dixon ...	22	112	—	—	22	112
Mr. J. B. Duncan ..	21	107	14	82	35	189
Mr. E. J. Elliott ...	8	22	—	—	8	22
Mr. G. Holmes ...	7	16	—	—	7	16
Mr. A. R. Horwood ...	8	42	—	—	8	42
Mr. J. Hunter ...	9	42	—	—	9	42
Mr. W. Ingham ...	14	127	2	14	16	141
Mr. A. B. Jackson ...	4	18	—	—	4	18
Mr. D. A. Jones ...	26	150	26	135	52	285
Mr. J. W. H. Johnson ...	2	10	—	—	2	10
Mr. H. H. Knight ...	12	72	12	80	24	152
Rev. D. Lillie ...	31	151	7	40	38	191
Mr. R. H. Meldrum ...	2	24	—	—	2	24
Mr. W. E. Nicholson ...	7	60	7	50	14	110
Mr. S. J. Owen ...	21	82	25	151	46	233
Sir J. Stirling ...	7	39	—	—	7	39
Rev. C. H. Waddell ...	10	49	2	18	12	67
Mr. W. B. Waterfall ...	16	97	—	—	16	97
Mr. J. A. Wheldon ...	12	62	2	12	14	74
Mr. A. Wilson ...	5	27	3	14	8	41
	<u>361</u>	<u>2059</u>	<u>117</u>	<u>708</u>	<u>478</u>	<u>2767</u>

In addition 9 packets of *Nardia Breidlerii* were sent by Mr. S. M. Macvicar; 51 packets of Hepatics from Switzerland by Mr. Bellerby, a member of Section II.; and, in order to satisfy "Special Wants," at the request of the Distributer, 30 packets were sent by Mr. Dixon, 51 by Mr. Duncan, 18 by Mr. Jones, 10 by Mr. Ingham, and 6 by Mr. Owen, the majority of such packets consisting of one specimen of each species.

The total number of packets received was 2942.

BALANCE SHEET FOR 1907.

	£	s.	d.		£	s.	d.
By Balance	2	8	2	To Secretary's expenses	1	5	7
„ 35 Subscriptions ...	8	15	0	„ Treasurer's do. ...	0	4	11
„ Sale of Hepatic Census				„ Distributer's do. ...	1	5	6
Catalogues	0	9	0	„ Coultas & Volans for			
„ Balance due to Treasurer	0	12	9	printing Report for			
				1907	5	15	6
				„ Census Catalogue A/c			
				(see below) ...	3	1	5½
				„ Cash in Sec's. hands...	0	11	11½
	£12	4	11		£12	4	11

"MOSS CENSUS CATALOGUE" ACCOUNT.

	£	s.	d.		£	s.	d.
By sale of Catalogues (to				To Carriage of Sim's Her-			
12th Feb. 1908) ...	12	10	6½	barium to and from			
„ Donations—				Mr. Meldrum ...	0	6	2
Prof. Barker 1 0 0				„ Printing 100 Circulars	0	6	6
Mr. P. Ewing 0 10 0				„ Mr. Duncan for printing			
————— 1 10 0				and posting 100 post			
„ Cash from General				cards	0	5	1
Club Funds ...	3	1	5½	„ Coultas & Volans print-			
				ing 400 Catalogues	14	17	6
				„ 100 Envelopes ...	0	1	0
				„ Postage, &c. ...	1	5	9
	£17	2	0		£17	2	0

From the above statement it will be seen that the call upon the Club Funds for the Catalogues has been only £3 1s. 5½d., to set against which we have 175 unsold Catalogues in stock. Allowing for cash in Secretary's hands there was an actual deficit of only 10½d. on the year's transactions.

J. A. WHELDON, *Hon. Treasurer.*

MOSSES.

Sphagnum cymbifolium Ehrh., var. *fuscescens* Warnst., Dirlot, Caithness (109), Aug. /01, D.L.; var. *glaucescens* W., near Brimham Rocks, Mid. W. Yorks. (64), Sep. /02, W.I.; also, Scorrieclott, Caithness (109), June /01, D.L.; var. *fusco-glaucescens* W., Rangag, Caithness, June /01, D.L.; var. *fusco-pallens* W., Dunnet Head, Caithness, Sep. /01, D.L.

Sphagnum fuscum Klinggr., Snaefell, Isle of Man (71), July /02, H.B.

Sphagnum turfaceum W., wet cliff, Arncliffe Wood, Goathland, N.E. Yorks. (62), Aug. /07, W.I.

Sphagnum recurvum (P.B.) W., var. *mucronatum* (Russ.) W. approaching *S. pulchrum* W., Wheeldale, Goathland (62), April /04, and Moor above Ravenscar (62), Sep. /05, W.I.

Sphagnum medium Limpr. var. *fuscescens* W., Achkinloch, Latheron, Caithness (109), June /00, D.L.

Sphagnum papillosum Lindb., var. *sublære* Limpr., Cockerham Moss, W. Lancs. (60), July /01, J.A.W.

Sphagnum rigidum Schp., *forma*, Longridge Fell, W. Lancs. (60), Nov. /98, J.A.W. "A young hemisophyllous form, teste Warnstorf."

Sphagnum compactum DC., Braithwaite, near Keswick, Cumberland (70), Aug. /03, H.B.; var. *subsquarrosus* W., Watten, Caithness (109), Dec. /07, D.L.

Sphagnum tenellum Ehrh., near Killin, Perth. (88), July /05, J.A.W.

Sphagnum crassycladum W., near Chorley, S. Lancs. (59), Ap. /01, H.B.

Sphagnum inundatum W., near Chorley (59), April /01, H.B.

Sphagnum teres Ångstr., var. *imbricatum* W., Acharole, Caithness (109), Oct. /02, D.L.

Sphagnum squarrosus Pers., var. *spectabile* Russ., dripping rock, Arncliffe Wood, Goathland, N.E. Yorks. (62), Aug. /07, W.I.; var. *imbricatum*, W., bog near Netherton, S. Lancs. (59), Nov. /07, J.A.W.

Sphagnum acutifolium R. & W., var. *pallescent* W., Dunbeath, Caithness (109), June /01; also, var. *flavo-rubellum* W., Scorrieclott (109), June /01; also, var. *versicolor* W., Dunnet Head (109), May /00; also, var. *flavescens* W., Langwell (109), June /01, D.L.

Sphagnum subnitens R. & W., var. *pallescent* W., Dirlet, Caithness, Aug. /01, D.L. ; var. *versicolor* W., Galleywood, Essex (18), Sep. /02, F.J.C. ; var. *obscurum* W., Rangag, Latheron, Caithness, June /01, D.L. ; var. *virescens* W., forma *gracilescens* and forma *squarrosula* Ingh. MS., dripping cliff, Arncliffe Wood, Goathland, N.E. Yorks. (62), April /07, W.I. "Beautiful pink stem when wet, and small capitula"; var. *purpurascens* Schlieph., Kirkmoss, Caithness (109), May /01, D.L.

Sphagnum rubellum Wils., var. *versicolor* Russ., Achkinloch, Caithness (109), June /00, and var. *viride* W., Dorrery, Caithness, Aug. /00, D.L. "I should name this var. *versicolor*, not *viride*. The plants have probably lost their distinctive colouring of var. *versicolor* in the herbarium." W.I.

Sphagnum quinquefarium Warnst., var. *pallescent* Warnst., Morven, Caithness, June /00, D.L.

Sphagnum fimbriatum Wils., var. *tenue* Grav., Seater Moss, Bower, Caithness, May /02, D.L. ; var. *robustum* Braithw., + var. *flagellaceum* Schlieph., wet rocks near Falling Foss, Goathland, N.E. Yorks. (62), Sept. /05, W.I.

Sphagnum fimbriatum Wils., various localities in Caithness (109), /01, D.L.

Sphagnum Lindbergii Schp., Saxa Vord, Unst, Shetlands (112), Aug. /07, D.L.

Sphagnum cuspidatum Ehrh., var. *falcatum* Russ., Ulbster, Caithness, June /00, and var. *submersum* Schimp., Rangag, Caithness, June /01, D.L.

Sphagnum obtusum Warnst., Bog near Netherton, S. Lancs. (59), Nov. /07, J.A.W.

Andreæa petrophila Ehrh., var. *sparsifolia* Lindb., Storhatten, Romsdal, Norway, Aug. 8 /89, W.B.W. "Does not seem well-marked *sparsifolia*, and of a different habit from Norwegian specimens (legit Kaalaas) in my herbarium." R.H.M.

Tetraphis Browniana Grev., Fan Gihirych, Brecon (42), July /02, H.H.K.

Polytrichum commune L., var. *perigoniale* B. & S., Strensall Common, N.E. Yorks. (62), Aug. /07, W.I.

Diphyscium foliosum Mohr, var. *acutifolium* Lindb., near Rydal, Westmorland (69), May /07, E.A.

Pleuridium alternifolium Rabenh., Wyre Forest, Worcs. (37), April /06, J.B.D. "Yes, but owing to the great abundance of flagelliform shoots, the specimens are scarcely typical." R.H.M.

Ditrichum flexicaule Hampe, var. *densum* B. & S., Marr, near Doncaster, S.W. Yorks. (63), March /00, and Askrigg (65), June /05, W.I.

Swartzia inclinata Ehrh., Gwynfe, Carmarthen (44), July /07, H.H.K.; summit of Axe Edge, Buxton, July /07, A.B.J.; near Buxton (57), Aug. /07, D.A.J. and S.J.O.; Keiss Links, Caithness (109), Sep. /07, D.L.; on damp sandy ground, Rainford Moss, S. Lanes. (59), Feb. /08, J.A.W. and W. G. Travis.

"New to Lancashire. The discovery is an interesting one, as *S. montana* was recorded from this locality by Skelhorne in Dickinson's 'Flora of Liverpool,' 1851, and has not been found since. No doubt *S. inclinata* was the plant he found." J.A.W.

Seligeria pusilla B. & S., Broadway Worcs. (37), Feb. /08, H.H.K. "New County Record."

Seligeria recurvata B. & S., Bowes, Yorks. (65), July /03, H.B.; Nant Cwm-du, Heol Senni, Brecon (42), Sep. /07, H.H.K.

Cynodontium polycarpum Schp., Rocks by Feldsee, 3300 ft., Schwarzwald, S. Germany, June /07, W.H.B.; also, St. Moritz, Engadine, Switz., Aug. /90, W.B.W.

Cynodontium strumiferum De Not., Rocks by Feldsee, Schwarzwald, June /07, W.H.B.

Cynodontium Wahlenbergii Ren. and Card., Dovrefjeld, Norway; also, Dombaas, Norway, Aug. /89, W.B.W. "The specimens from the latter locality I make to be this, the others from Dovrefjeld seem to me to come better under *C. virens*." R.H.M.

Dichodontium pellucidum Schp., var. *compactum* Schp. MS., Ben Cruban, Killin (88), Aug. /07, J.B.D.

Dicranella heteromalla Schp., var. *interrupta* B. & S., Tyn-y-groes, Merioneth (48), Aug. /07, S.J.O.

Dicranella crispa Schp., sandy bank of lane, Stranmillis, Belfast, Oct. /81, coll: S. A. Stewart, comm: C.H.W.

Dicranella secunda Lindb., Piz Languard at 10,000 ft., Engadine, Switz., Aug. /90, W.B.W.

Dicranella curvata Schp., roadside, Croesor, Merioneth (48), Nov. /07, S.J.O.

Dicranella Schreberi Schp., Hampton Loade, Salop (40), Mar. /06, J.B.D.

Blindia caespiticia Lindb., Koppajokk, Swedish Lapland, lat. 68° 20' N., Aug. /07, H.N.D.

Campylopus subulatus Schp., Tyn-y-groes, (48), Aug. /07, S.J.O. ; var. *clongatus* Boswell, Maenclochog, Pembroke (45), July /06, A.B.

Campylopus introflexus Brid., Glengariffe, Ireland, V.C. I. 3, May /03, H.D.

Dicranodontium longirostre B. & S., var. *alpinum* Schp., Greygarth Fell, 2000 ft., W. Lancs. (60), July /03, A.W. ; also, Ingleborough, Yorks. Jan. /08, J.W.H.J.

Dicranum undulatum Ehrh., forming large mats under fir trees, Zastlerthal, Schwarzwald, S. Germany, 1800 ft. June /07, W.H.B. ; also, c.fr., in firwood, Töreboda, Gotland, Sweden, Sep. /07, H.N.D.

Dicranum Bergeri Bland., Wybunbury Bog, Cheshire (59), Aug. /07, D.A.J. ; also, c.fr., Jerkin, Dovrefjeld, Norway, Aug. /89, W.B.W.

Dicranum Bonjani De Not., var. *calcarum* Braithw., Stockton Forest, near York (62), March /07, W.I.

Dicranum scoparium Hedw., var. *orthophyllum* Brid., Sandhills, Hightown, S. Lancs. (59), July /07, J.A.W.

Dicranum fuscescens Turn., var. *falcifolium* Braithw., Dyffryn Ceidrych, Llangadock, Carmarthen (44), July /07, H.H.K.

Dicranum elongatum Schleich., c.fr., Kongsvold, Dovrefjeld, Norway, Aug. /89, W.B.W.

Dicranum longifolium Ehrh., on rocks, Feldberg, Schwarzwald, S. Germany, June /07, W.H.B.

Fissidens pusillus Wils., St. Ishmael's, Pembroke (45), March /07, A.B. ; also in fernery, Kew Gardens, Dec. /07, A.B.J.

Fissidens Curnowii Mitt., on dripping rocks, Penzance (1), Jan. /07, H.D.

Fissidens crassipes Wils., Gresford, Denbighshire (50), Aug. /07, D.A.J.

Fissidens rufulus B. & S., R. Sawdde, Llangadock, Carmarthen (44), Oct. /07 ; and R. Usk, Senni Bridge, Brecon (42), Sep. /07, H.H.K. "I think so, the leaf form agrees and the areolation is nearer this than *F. crassipes*, although not so markedly incrassate as in Salzburg specimens (legit Sauter)." R.H.M.

Fissidens serrulatus Brid., on bank of stream near Penzance (1), April /07, W.E.N.

Grimmia orbicularis Bruch, Ormeshead (49), Feb. /83, coll : W. Jones, comm : E.A.

Grimmia subsquarrosa Wils., Rickeson, May /07, and St. Ishmael's, Nov. /07, Pembroke (45), A.B. "This seems to be the Pembroke plant referred to in The Handbook (Ed. II.) in notes under *subsquarrosa*. The bent stems with squarrose leaves enlarged to a coma seem constant characters, and the short basal areolation is often quite pronounced. In no case however does the latter character seem constant throughout a stem, some leaves at least showing longer cells near the nerve, a character allowed for by Mr. Dixon in description, and as far as I can see, the short basal cells are usually incrassate, while Mr. Dixon (see p. 562 under *G. retracta*) seems to hint otherwise. In crowded tufts the squarrose character of the leaves and the coma are less pronounced." A.B.

"Probably this, but not typical. The long hair-point is peculiar, and the habit appears somewhat different from the normal. May it not be *G. Lisæ*? It fits Boulay's description of that plant in several respects, and, comparing it with a specimen so named from the West of France, I find a marked resemblance except as to the basal cells, which in the Welsh plant are shorter and more incrassate. Mr. Dixon may be able to compare it with an authentic specimen." R.H.M.

"I have examined Mr. Brinkman's plants. The two gatherings are identical, I think, in characters, except that the leaves in the Rickeson plant are perhaps more uniformly squarrose than in the latter, and my remarks apply to both. I have compared them with *G. Lisæ* De Not., but I should not refer them to that. That is to say, I should be quite willing to group *G. Lisæ* and *G. subsquarrosa* and the Pembroke plant as one species (or sub-species of *trichophylla*); but in so far as the Pembroke plant differs from our ordinary *G. subsquarrosa*, it does not come nearer to *G. Lisæ*, except in the long hair-point (in which, by the way, *G. Lisæ* varies much). In *G. Lisæ* the margins are widely and strongly recurved, as compared with *G. trichophylla* or *subsquarrosa*, which is not the case with the plant under notice. The basal cells in *G. Lisæ* are also somewhat different, the short opaque cells of lamina reaching nearly to the base so that the rectangular pellucid cells only occupy a small space; this is not a character of the Pembroke plant. I think that the Pembroke plant must be considered a *form of subsquarrosa*. The basal cells vary somewhat in length—though I find them very rarely approaching the areolation of *G. trichophylla*—and also in incrassation, and are on the whole, I think, very fairly characteristic of *subsquarrosa*; and this is certainly (taking into account the nearness of relationship with *G. trichophylla*) not a character to base a specific difference upon. I should strongly incline to subordinate *G. Stirtoni*, *G. subsquarrosa*, *G. Lisæ*, *G. Sardoia* De Not., and *G. Mühlenbeckii* to *G. trichophylla*, grouping the 2nd, 3rd, and 4th as constituting a single sub-species with vars." H.N.D.

Grimmia subsquarrosa Wils., var. *edinensis* Braithw., Callerfountain Hill, Mid Perth (88), Oct. /07, R.H.M. "I think these packets are all correctly named. But the question forces itself upon one, how does this plant differ from *Grimmia Stirtoni* Schp.?" H.N.D.

Grimmia elatior B. & S., St. Moritz, Switz., Aug. /90, and Dombaas, Norway, Aug. /89, W.B.W.

Grimmia retracta Stirton, Rocks in R. Wye, Builth, Brecon, July /03, H.N.D.

Grimmia ovata Schwæg., Dombaas, Norway, Aug. /89, W.B.W.

Grimmia commutata Hübn., Dombaas, Norway, Aug. /89, W.B.W.

Grimmia elongata Kaulf., mountain rocks, Braithwaite, Cumberland (70), Sep. /07, coll: C. H. Binstead, comm: E.A.; also Vermofos, Romsdal, Norway, Aug. /89, W.B.W.

Grimmia atrata Mielich., Clogwyn Du'r Arddu, Snowdon (49), April /07, S.J.O.

Grimmia unicolor Hook., Karelia Lagodensis, Lapland, Aug. /76, coll: Brotherus and Hjelt, comm: C.H.W.

Racomitrium fasciculare Brid., c.fr., Ambleside, Westmorland (69), May /07, E.A. "Is a muticous form of *R. canescens* var. *ericoides*. The long peristome teeth catch the eye at once, the leaves are papillose and hyaline points are visible on some of the leaves." R.H.M.

Racomitrium heterostichum Brid., var. *gracilescens* B. & S., near Codale Tarn, Westmorland (69), May /07, E.A.

Racomitrium ramulosum Lindb., Ben Lawers (88), Aug. /07, J.B.D.; also, Meall nan Tarmachan, Killin (88), Aug. /02, E.C.

Hedwigia ciliata Ehrh., var. *striata* Wils., near New Galloway, Kirkeudbright (73), July /07, leg: J. McAndrew, comm: J.H.

Pottia bryoides Mitt., stony paths, Doverow Hill, Stonehouse, Glos. (33), March /07, E.J.E.

Pottia crinita Wils., sandy banks near sea, Penzance (1), Jan. /07, H.D.; also, St. Ishmael's, Pembroke (45), March /07, A.B.

Pottia Wilsoni B. & S., St. Ishmael's, Pembroke (45), March /07, A.B. "It is not always easy to distinguish *P. Wilsoni* and *P. crinita*, but some of these packets contain an admixture of well marked *crinita*." W.E.N.

Pottia minutula Fürnr., Rodborough Fields, Stroud, Glos. (34), Oct. /03, E.J.E.

Pottia Starkeana C.M., var. *brachyodus* Wils., St. Ishmael's, Pembroke (45), Nov. /06, Nov. and Dec. /07, A.B. "I have found a few stems of what I believe to be the true var. *brachyodus* in two or three packets which are marked, but the bulk of the gatherings belongs to that faintly peristomate form of *P. minutula* which, so far as I am aware, has not been named at present. The spores are quite of the *P. minutula* type. It occupies an analogous position, as regards the peristome, under *P. commutata* Limpr. as the var. *brachyodus* does under *P. Starkeana*." W.E.N.

Tortula atrovirens Lindb., banks near the sea, Marazion, Cornwall, (1), Jan. /07, H.D.

Tortula canescens Mont., Aberamffra, Barmouth (48), March /07, D.A.J.

Tortula laevipila Schwæg., var. *laevipilaeformis* Limpr., Uplyme, Dorset, Dec. /03, H.N.D.

Tortula princeps De Not., Moel-yr-Ogof, Carnarvon (49), Aug. /07, S.J.O.

Barbula rubella Mitt., var. *ruberrima* Ferg., Berwig, Denbighshire (50), Aug. /07, D.A.J. "New County Record"; also, Teesdale, Durham (60), leg: D.A.J. and E.C. Horrell, Aug. /01, comin: F.J.C.

Barbula tophacea Mitt., forma, by R. Usk, near Crickhowell, Brecon (42), leg: A. Ley, comin: F.J.C. "I make this plant *B. spadicea* Mitt. The shape and direction of the leaves and the small incrassate cells are characteristic of *B. spadicea*. The habitat in river grit is also suggestive of that species." W.E.N.; also Sandhills, Burnham, Somerset (6), May /05, H.D.

Barbula tophacea Mitt., var. *acutifolia* Schp., wall, Scraftoft, Leics. (55), Feb. /06, A.R.H.

Barbula recurvifolia Schp., walls, Miller's Dale, Derbs. (57), Aug. /07, D.A.J. "A large form."

Barbula spadicea Mitt., Nant-y-Ffrith, Denbighshire (50), April /07, D.A.J.

Barbula Nicholsoni Culmann, wall of culvert, Amberley Wild Brooks, W. Sussex, June /07, W.E.N. New species. See Mr. Nicholson's translation of the Latin diagnosis in Rev. Bry., 1907, p. 100, at the end of this Report.

Barbula rigidula Mitt., Watten, Caithness (109), Dec. /07, D.L.; also, Croesor, Merioneth (48), Nov. /07, S.J.O.

Weisia crispa Mitt., on chalk, Shoreham, Sussex, April /07, A.B.J.

Weisia sterilis Nicholson, c.fr., Chalk Downs, Lewes, Sussex, April /06, W.E.N.

Weisia microstoma C.M., fallow soil, Hertford (20), April /04, H.D. "This plant is rather *W. mucronata* B. & S., of which it has the plane margined leaves and the wide-mouthed faintly peristomate capsule. The capsules are de-operculate and the peristome somewhat abraded. It is possible that it belongs to the var. *subgymnostoma* Limpr." W.E.N.

Weisia crispata C.M., Arnside, Westmorland (69), May /05, H.B.

Weisia calcarea C.M., Ashwood Dale, Buxton, Derbs. (57), May /01, J.S.; also, c.fr., Symonds Yat, W. Gloucester (31), May /06, E.A.; also, Miller's Dale, Buxton, Aug. /07, S.J.O. and D.A.J.

Weisia curvirostris C.M., var. *commutata* Dixon, Nant-y-Efrith, Denbighshire (50), April /07, D.A.J.; also, Widdy Bank Fell, Teesdale (66), Aug. /01, leg: D.A.J., comm: F.J.C.; var. *scabra* Lindb., Ben Laoigh, Mid Perth (88), July /93, H.N.D.; also, Ben Laoigh, July /07, E.C.; var. *insignis* Dixon, damp rocks, Finlarig Burn, Killin (88), Aug /03, J.B.D.; also, rocks in water course, Craig Chailleach, Killin, July, /98, and dripping rocks, Ben Laoigh, July /98, H.N.D.

Weisia verticillata Brid., c.fr., Chalford, Stroud, Glos. (34), Aug. /07, G.H. and E.J.E.

Trichostomum crispulum Bruch, var. *brevifolium* B. & S., Hartlip, Kent, May /04, leg: J. Marten, comm: H.N.D.

Trichostomum fragile Dixon, Keiss Links, July /02, and Dunnet Links, May /02, Caithness (109), D.L.

Encalypta rhabdocarpa Schwæg., Keiss Links, Caithness (109), May /07, D.L.; also, Ben Vrackie, E. Perth (89), Aug. /05, A.W.

Anæctangium Hornschuchianum B. & S., Gossnitz Fall, Heiligenblut, Carinthia, Austria, Aug. /04, J.S.

Zygodon Stirtoni Schp., Symonds Yat, W. Glos. (34), May /06, E.A.

Ulotia Drummondii Brid., on alders, Altnaharra, Sutherland (108), July /99, H.N.D.; also, Molde, Norway, Aug. /89, W.B.W.

Ulotia phyllantha Brid., var. *stricta* Nicholson, Out Skerries, Shetland (112), Aug. /07, D.L. "This is not recorded for V.C. 112 in Census Cat." E.C.

Orthotrichum cupulatum Hoffm., Symonds Yat, W. Glo'ster (34), Jan. /07, E.A. "Correctly named, but some attention should, I think, be drawn to the constantly 8-ribbed capsule. It is probably the var. *octostriatum* Limpr." W.E.N.; also, Buxton, Derbs. (57), Aug. /07, S.J.O.; var. *nudum* Braithw., rocks, Nant-y-Efrith, Denbighshire (50), Aug. /07, D.A.J.

Orthotrichum speciosum Nees, Molde, Norway, Aug. /89, W.B.W.

Orthotrichum obtusifolium Schrad., Molde, Norway, Aug. /89, W.B.W.

Schistostega osmundacea Mohr, Cave near Longton, Staffs. (39), May /07, E.A.

Tayloria lingulata Lindb., Bog at 3000 ft., Craig Chailleach, Mid Perth (88), July /98, H.N.D.

Ephemerum serratum Hampe, Huntsham, Herefordshire (36), Jan. /07, E.A.

Physcomitrella patens B. & S., dried mud, Waterford Marsh, Hertford (20), H.D.

Paludella squarrosa Brid., Terrington Carr, Yorks. (62), Nov. /57, comm: C.H.W.; also, Knutsford Moor, Cheshire (58), leg: W. Wilson, April /32, comm: F.J.C.; also, Dovrefjeld, Norway, Aug. /89, W.B.W.

Catoseopium nigratum Brid., Newborough Sandhills, Anglesey (52), Oct. /07, D.A.J.

Bartramia pomiformis Hedw., var. *erispa* B. & S., Llyfnant Valley, Montgomery (47), July /01, H.N.D.

Philonotis Wilsoni Braithw., Cwm Bychan, Harlech (48), Sept. /07, D.A.J.

Philonotis cæspitosa Wils., Morley Common, Cheshire (58), Aug. /60, leg: W. Wilson, Ex. Herb. Brit. Mus., comm: F.J.C.

Philonotis seriata Mitt., stream at 2500 ft., Ben Nevis (96), July /98, and springs on Ben Douran, Argyllshire (98), July /98, H.N.D.

Philonotis calearea Schp., Hale Moss, S. Lincs. (60), leg: W. Wilson, 1864, Ex. Herb. Brit. Mus., comm: F.J.C.; also, Aberffraw Sandhills, Anglesey (52), Oct. /07, D.A.J.

Oreas Martiana Hoppe and Hornschuch, c.fr., rocks near Franz Joseph's Höhe, Heiligenblut, Carinthia, Aug. /04, J.S.

Webera eruda Schwæg., c.fr., Heseltine Gill, Littondale, Yorks., Aug. /96, H.N.D.

Webera nutans Hedw., var. *bicolor* B. & S., Fairfield, 2600 ft., Westmorland (69), May /07, E.A. "Approaching the var. in habit, but the specimens do not exhibit the special characters of the var. well. The fruit is rather young, but the few nearly ripe capsules are narrower and more pendulous than is usual in var. *bicolor*. I should hesitate to definitely refer it to the var. though undoubtedly it approaches it." J.A.W.

Webera albicans Schp., var. *glacialis* Schp., c.fr., swamp, Ben Cruban, Killin (88), July /97, H.N.D.; also same locality, Sep. /07, J.H.

Webera Tozeri Schp., Penlee Point, Penzance (1), Jan. /07, H.D.

Plagiobryum Zierii Lindb., Cautley Spout, Sedbergh, N.W. Yorks. (65), June /04, A.W.

Bryum filiforme Dicks., var. *juliforme* Dixon, stony ground, Carbiss Bay, W. Cornwall (1), April /07, W.E.N.

Bryum calophyllum R. Br., Birkdale, S. Lincs. (59), July /07, H.B.

Bryum neodamense Itzigs., Sand dunes near Formby, S. Lincs. (59), July /07, J.A.W.

Bryum provinciale Philib., limestone buttresses, Great Doward, Herefordshire, July /03, H.N.D.

Bryum obconicum Hornsch., sandy hedge-bank, Maresfield, Sussex, Aug. /07, W.E.N.

Bryum erythrocarpum Schwæg., c.fr., Strensall Common, N.E. Yorks. (62), Aug. /06, W.I.

Bryum murale Wils., wall at Baysham, Herefordshire (36), May /06, E.A.; also Stroud, Glos. (33), /04, G.H. "Latter is *B. inclinatum* Bland. Note the autoicous inflorescence, very imperfect inner peristome, large spores, etc." W.E.N.

Bryum alpinum Huds., var. *viride* Husn., rocks, High Force, Teesdale, Durham, Aug. /96, and Honister Pass, Cumberland, Aug. /95, H.N.D.

Bryum Mildeanum Jur., rocks in stream, High Force, Teesdale, Yorks., Aug. /96, H.N.D.

Bryum argenteum L., var. *majus* B. & S., by the R. Allt, Netherton, S. Lancs. (59), Dec. /07, J.A.W. "Plants had been flooded and covered with mud; a few washed as well as possible." J.A.W.

Mnium affine Bland., var. *clatum* B. & S., pond, King's Norton, Leics. (55), April /07, A.R.H.

Mnium cuspidatum Hedw., limestone rocks, near Wells, Somerset (6), May /06, H.D.; also, Rydal, Westmorland (69), May /07, E.A.

Mnium medium B. & S., c.fr., Abisko, Swedish Lapland, 68° 20' N. lat., Aug. /07, H.N.D. and W.E.N.

Mnium hymenophyllum B. & S., Abisko, Swedish Lapland, Aug. /07, H.N.D. and W.E.N.

Mnium orthorrhynchum B. & S., c.fr., Diablerets, Switz., July /06, E.C.

Cinclidium stygium Swartz, c.fr., bog, L. Maol a Choire, Inchnadamph, Sutherland (108), July /99, H.N.D.

Neckera pumila Hedw., Kenmure Holms, New Galloway, Kirkcudbright (73), leg : J. McAndrew, July /07, comm : J.H.

Hookeria læte-virens Hook. & Tayl., Mousehole Cave, Penzance (1), Jan. /07, H.D.

Leucodon sciuroides Schwæg., c.fr., Schwarzwald, S. Germany, June /07, W.H.B.; also, Rydal, Westmorland (69), May /07, E.A. "Much infested with branchlets." Var. *morensis* B. & S., Craig Chailleach, Killin (88), Aug. /03, J.B.D., and Aug. /07, H.H.K.

Porotrichum angustifolium Dixon, Cressbrook Dale, near Monsal Dale, Derbs. (57), Aug. /07, D.A.J. and S.J.O.

Myurella apiculata B. & S., Meall nan Tarmachan, 3000 ft., Killin, Perth. (88), Aug. /07, J.B.D.

Anomodon attenuatus Hüb., Zastlerthal, Schwarzwald, S. Germany, June /07, W.H.B.

Leptodon Smithii Mohr, rocks between Portmadoc and Tremadoc, Carnarvon (49), Dec. /07, D.A.J. "New County Record."

Pterigynandrum filiforme Hedw., c.fr., Feldberg, 4000 ft., Schwarzwald, June /07, W.H.B.

Thuidium abietinum B. & S., Sandhills, Pendine, Carmarthen (44), Sept. /07; and Whittington, E. Glos. (33), Jan. /08, H.H.K. "New to v.c. 33."

Thuidium hystricosum Mitt., Reigate, Surrey (17), June /07, A.R.H.; and, Shoreham, Kent (16), June /05, H.B.

Thuidium decipiens De Not., Ben Cruban, Killin, Perth. (88), July /06, J.H.

Thuidium recognitum Lindb., Chalk Downs, Hitchin, Herts. (20), April /06, H.D.

Orthothecium intricatum B. & S., Bulbein Mt., N. Donegal, July /07, J.H.

Camptothecium nitens Schp., Flazendale, Yorks. (62), Sept. /56, comm: C.H.W.; also Meall nan Tarmachan, Killin (88), Aug. /07, Ll.J.C.; and Wybunbury Bog, Cheshire (58), Aug. /07, D.A.J. "W. Wilson's locality." D.A.J.

Brachythecium plicatum B. & S., Ben Lawers, Aug. /07, Ll.J.C.; also, c.fr., Diablerets, Switz., July /06, E.C.

Brachythecium glareosum B. & S., c.fr., King's Stanley, Glos. (34), Jan. /07, E.J.E.

Brachythecium salebrosum B. & S., var. *palustre* Schp., Aylestone Meadows, Leics. (55), March /05, A.R.H.; also, St. Ishmael's, Pembroke (45), March /07, A.B.

Brachythecium rutabulum B. & S., var. *longisetum* B. & S., railway embankment, N. Evington, Leics. (55), Feb. /06, A.R.H.

Brachythecium reflexum B. & S., Ben Lawers (88), Aug. /07, J.B.D.

Brachythecium plumosum B. & S., Whitfield Gill, Wensleydale, N.W. Yorks. (65), June /05, W.I. "Pretty form." H.N.D.

Brachythecium caespitosum Dixon, Kenmure Holms, New Galloway, Kirkcudbright (73), July /07, leg: J. McAndrew, comm: J.H.

Hypocomium flagellare B. & S. "A very robust form." Near South Barule, Isle of Man, leg: Hartley and Beesley, May /07, comm: H.B.

Eurhynchium pumilum Schp., on chalk, Siddoun Hill, Highclere, N. Hants. (12), Dec. /06, A.B.J.

Eurhynchium Teesdalei Schp., Nant-y-Ffrith, Denbighshire (50), Aug. /07, D.A.J.

Eurhynchium striatulum B. & S., c.fr., Doward, Herefordshire (36), Jan. /06, E.A.

Eurlynchium megapolitanum Milde, St. Anne's, W. Lancs. (60), June /01, H.B.

Eurhynchium rotundifolium Milde, c.fr., near Bisley, Stroud, Glos. (33), Feb. /02, E.J.E., and March /07, G.H.

Sematophyllum demissum Mitt., Rhaiadr Du, Tyn-y-groes (48), Sep. /07, D.A.J.

Plagiothecium depressum Dixon, Hampton Loade, Salop (40), March /06, J.B.D.

Plagiothecium pulchellum B. & S., Nant Cwm-du, Heol Senni, Brecon (42), Sept. /07, H.H.K.

Plagiothecium silvaticum B. & S., var. *orthoeladum* B. & S., Dunnet, Caithness (109), May /03, D.L.

Amblystegium Sprucei B. & S., Cressbrook Dale, Derbs. (57), Aug. /07, D.A.J. and S.J.O.

Amblystegium serpens B. & S., var. *salinum* Carr., Sandhills, Carbiss Bay, W. Cornwall (1), Jan. /07, H.D.

Amblystegium Juratzkanum Schp., Marloes, Pembroke (45), May /07, A.B. "This is good *Juratzkanum* in its robust habit and its long basal cells." W.I.; also, Wybunbury Bog, Cheshire (58), Aug. /07, D.A.J.

Amblystegium Koehii B. & S., Llanfrothen, Merioneth (48), Ap. /05, S.J.O.

Amblystegium filicinum De Not., var. *Valliselausæ* Dixon, Daneway, Stroud, Glos. (33), Feb. /95, E.J.E.; var. *Whiteheadii* Wheld., Daneway, Stroud, Glos. (33), Feb. /05, E.J.E. "New County Record."

Hypnum stellatum Schreb., var. *protensum* Röhl, c.fr., on wet rocks by stream, Tyndrum, Perth. (88), July /98, and on wet cliffs, Killin, Perth. (88), July /97, H.N.D.; also Greencliff Hagg, near Helmsley, N. Yorks. (62), Aug. /07, H.B.

Hypnum hispidulum Brid., var. *Sommerfeltii* Myr., near Stroud, Glos. (33), /06, G.H.

Hypnum — ? Llyn Du, Morfa Harlech, Merioneth (48), Oct. /07, D.A.J. "Is *H. aduncum* (*pseudo-fluitans*) var. *paternum* Sanio. = *H. pseudo-fluitans* (Sanio) Klinggr. in 'Leber und Laubm. West und Ostpr.' p. 273 (1893) and of Warnstorff's 'Die Europäischen Harpidien' (Bot. Centralblatt. 1903)." J.A.W.

Hypnum aduncum var. *paternum* Sanio, High Easter, Essex (19), May /03, F.J.C.

Hypnum aduncum (*pseudo-fluitans*) var. *paternum*, f. *gracilis* Ren. MS., St. Ishmael's, Pembroke (45), March /07, A.B.

Hypnum aduncum Hedw., near var. *flexile* Ren., floating in brick-works pond, Church Fenton, Mid W. Yorks. (64), June /99, W.I. "This certainly comes very near the variety, having the slender flexuose habit and narrow leaves, but the latter are not prolonged into the long twisted subule of the true plant." J.A.W.

Hypnum Wilsoni Schp., Formby Sandhills, South Lancs. (59), July /07, J.A.W.; also, Newborough Sandhills, Anglesey (52), Oct. /07, D.A.J. "New to Wales."

Hypnum fluitans L. var. *Jeanbernati* Ren., Warley Common, S. Essex (18), Dec. /04, F.J.C. "I regard this as a form of *H. Jeanbernati* strongly tending towards var. *elata* Ren. et Arn. This latter seems to me to be little more than a robust form of var. *Jeanbernati*, with stems more branched and leaves more falciform. Mr. Chittenden's plant shows more variability in the characters of the alar cells; in some they are of the typical *Jeanbernati* form, in others they are distinct and dilated, almost as well marked as in the *exannulatum* group. Indeed it would have been a matter of difficulty to assign it to either without the inflorescence. This is monoicous, although the male flowers are fewer in proportion to the female than is usual. As the sexual characters must be held to have more weight than the vegetative, I feel justified in naming it as above, notwithstanding the divergence from the usual forms which I have pointed out." J.A.W. Also, Rainford Moss, near Liverpool (59), July /03, H.B.

Hypnum exannulatum var. *falcifolium* Ren., f. *heteroptera* Ren., Walthamstow, S. Essex (18), April, /04, F.J.C. "Those who receive these specimens must not overlook the reference to the Report for 1905. The name is only a provisional one, and Mons. Renauld emphasises the fact that it is only doubtfully applied." J.A.W.

Hypnum exannulatum var. *brachydictyon* Ren., Maenclochog, Pembroke (45), July /06, A.B.; also, Netherton, S. Lancs. (59), Nov. /07, J.A.W. "An extreme form approaching var. *pinnatum*, teste Renauld." J.A.W.

Hypnum exannulatum var. *falcifolium* Ren., Chyenhall Moor, Paul, W. Cornwall (1), Sept. /06, F.J.C.; also, Pilmoor, N.E. Yorks. (62), March /07, W.I.; also, var. *pinnatum* f. *gracilescens* Ren., Chyenhall Moor, Paul (1), Sept. /06, F.J.C.

Hypnum vernicosum Lindb., var. *majus* Lindb., bog near Docker, W. Lancs. (60), May /02, A.W.; also, Myddfai, Carmarthen (44), July /07, H.H.K.

Hypnum cupressiforme L., var. *elatum* B. & S., Keiss Links, Caithness (109), Sept. /07, D.L.; also, Dale, Pembroke (45), Mar. /07, A.B.

Hypnum imponens Hedw., Strensall Common, N.E. Yorks. (62), Aug. /98, W.I.

Hypnum hamulosum B. & S., Craig Chailleach, Killin (88), Aug. /02, and, c.fr., Aug. /03, J.B.D.; also, Aug. /07, H.H.K.

Hypnum callichroum Brid., c.fr., near Loch Awe, Argyllshire (98), May /04, H.B.

Hypnum circinale Hook., rocks, Cromaglow, Killarney, Aug. /06, J.B.D and D.A.J.

Hypnum crista-castrensis L., c.fr., Auchmore Woods, Loch Tay, Perth. (88), Aug. /07, Ll.J.C.; also Bwlch Tyddiad, Merioneth (48), Sept. /07, S.J.O. and D.A.J. "New to v.c. 48; 2nd record for Wales; G. A. Holt's locality." D.A.J.

Hypnum ochraceum Turn., var. *flaccidum* Milde, Quinag, Sutherland (108), July /99, and wet rocks in waterfall, Ilkley, Yorks. July /96, H.N.D.

Hypnum scorpioides L., var. *angustifolium* Sanio, Newborough Sandhills, Anglesey (52), Oct. /07, D.A.J. "New to Wales."

Hypnum sarmentosum Wahl., var. *fallaciosum* Milde, Ben Cruban, Killin (88), Sept. /07, J.H. "This is evidently *H. stramineum* Dicks., with unusual vivid green colour, and loosely-placed, spreading leaves. Note the rounded apex of the very obtuse leaves, with the small group of hyaline cells just below the apex." W.I.

HEPATICS.

Riccia pseudo-Frostii Schffn., Horsted Keynes Pond, E. Sussex (14), Sept. 14, /07. W.E.N. (See J. of Bot. Feb. 1907, p. 63, also Mr. Nicholson's translation of the German diagnosis at the end of the Report).

Ricciella fluitans L., peaty bank of Lake Aughnadarragh, Saintfield, Co. Down, Aug. /07, C.H.W. "Land form."

Dumortiera irrigua Wils., Torc Glen, Killarney, Aug. /05, J.B.D.; and Torc Mount. Killarney, coll: S. A. Stewart, June /85, comm: C.H.W.

Aneura incurvata (Lindb.) Steph., Mochras, Merioneth (48), Oct. /07, S.J.O.; and, Nov. /07, D.A.J. "New County Record."

Aneura sinuata (Dicks.) Limpr., Harlech, Merioneth (48), April /07, S.J.O.

Aneura latifrons Lindb., Sandhills, Morfa Bychan, Portmadoc, Carnarvon (49), Sept. /07, S.J.O.; and, Oct. /07, D.A.J.

Metzgeria conjugata Lindb., Tore Mount. Co. Kerry, Aug. /05, J.B.D.; also, Prenteg, near Tremadoc, Carnarvon (49), Ap. /07, S.J.O.; also, St. Ishmael's, Pembroke (45), March /07, A.B. "New to v.c. 45."

Metzgeria pubescens (Schrank) Raddi, Nant-y-Efrith, Denbighshire (50), Aug. /07, D.A.J. "New to v.c. 50."

Pallavicinia Flotowiana (Nees) Lindb., Berwig, Denbighshire (50), Aug. /07, D.A.J. "New to v.c. 50."

Blasia pusilla L., Watten, Caithness (109), Dec. /07, D.L.; also, Nant-y-Efrith, Denbighshire (50), Aug. /07, D.A.J. "New to v.c. 50."

Gymnomitrium crenulatum Gottsche, Buttermere, Cumberland (70), coll: W. H. Pearson, April /05, comm: E.A.

Gymnomitrium adustum Nees, Glyders, Carnarvon (49), April /07, S.J.O. "New to v.c. 49."

Marsupella condensata (Ångstr.) Kaal., Ben Lawers, Aug. /07, H.H.K.

Marsupella emarginata (Ehrh.) Dum., Fairfield, at 2300 ft., Westmorland (69), May /07, E.A. "Is *M. aquatica* Schffn." S.M.M.

Marsupella Pearsoni Schffn., on stones in bog, Croesor, Merioneth (48), Oct. /07, S.J.O. "New to v.c. 48."

Marsupella aquatica (Lindenb.) Schffn., Glyders, Carnarvon (49), March /07, S.J.O.

Nardia scalaris (Schrad.) Gray, c.per., Rydal Head, Westmorland (69), May /07, E.A.; var. *distans* Carr., Nant Peris, Carnarvon (49), April /07, S.J.O.

Nardia Breidlerii (Limpr.) Lindb., + *Gym. varians*, on moist soil, 3900 ft., Ben Nevis, July /07, S. M. Macvicar.

Aplozia autumnalis (DC.) Schffn., Wyre Forest, Shropshire (40), March /07, J.B.D. "New to v.c. 40."

Aplozia cordifolia (Hook.) Dum., Wansfell, Westmorland (69), May /07, E.A.

Aplozia atrovirens (Schleich.) Dum., on calcareous tufa, Miller's Dale, Derbs. (57), Aug. /07, D.A.J. "New to v.c. 57."

Aplozia pumila (With.) Dum., Llandovery, Carmarthen (44), Nov. /07, H.H.K.; also, Llanfrothen, Merioneth (48), Feb. /07, S.J.O. "New to v.c. 44."

Lophozia inflata (Huds.) Howe, var. *laxa* Nees, Simmonswood, S. Lincs. (59), Feb. /08, J.A.W.

Lophozia badensis (Gottsche) Schffn., sands, Pendine, Carmarthen (44), Sept. /07, H.H.K. "New to v.c. 44."

Lophozia Mülleri (Nees) Dum., Scorrielett, Caithness (109), Sept. /07, D.L.; var. *bantriensis* (Hook.), Sawdde Fechan, Carmarthen (44), July /07, H.H.K. "New to v.c. 44"; var. *subcompressa* Limpr., Ben Grian Mohr, E. Sutherland (107), June /02, D.L.

Lophozia Kaurini (Limpr.) Steph., Ousdale, Caithness (109), Sept. /07, D.L.

Lophozia barbata (Schmid.) Dum., on wall, Croesor, Merioneth (48), Jan. /07, S.J.O.; also, Glen Lochay, and near Blair Athol, Mid Perths. (88), Aug. /07, H.H.K.

Lophozia lycopodioides (Wallr.) Cogn., Ben Lawers (88), Aug. /07, H.H.K. "I should name this *L. Baueriana* Schffn." S.M.M. "New to v.c. 88."

Lophozia Flærkii (Web. et Mohr) Schffn., var. *Baueriana* Schffn., R. Garry (right bank) near Blair Athol, Mid Perths. (88), Aug. /07, H.H.K.

Lophozia atlantica (Kaal.) Schffn., Dirlot, Caithness (109), Oct. /06, D.L.

Sphenolobus Pearsoni (Spruce) Steph., on rocks in Cwm Glas, Snowdon (49), April /07, S.J.O. and D.A.J.

Sphenolobus exsectus (Schmid.) Steph., Tyn-y-groes, Merioneth (48), Sept. /07, S.J.O. "New to v.c. 48."

Plagiochila asplenoides (L.) Dum., var. *Dillenii* (Tayl.), Loughrigg, Westmorland (69), May /07, E.A.; var. *heterophylla* Nees, Miller's Dale, Derbs. (57), Aug. /07, S.J.O. "I think that this should rather be placed under var. *humilis* Lindenb. on account of its small size and entire decurved leaves." S.M.M.

Mylia Taylora (Hook.) Gray, c.per., Bwlch Tyddiad, Merioneth (48), Sept. /07, D.A.J. and S.J.O.

Mylia anomala (Hook.) Gray, Wybunbury Bog, Cheshire (58), Aug. /07, D.A.J.

Clasmatocolea cuneifolia (Hook.) Spruce, on trees, Cromaglown, Co. Kerry, Aug. /06. J.B.D. and D.A.J.

Lophocolea cuspidata Limpr., Parkhurst Forest, Isle of Wight (10), March /07, leg: Rev. H. M. Livens, comm: W.I. "New to v.c. 10."

Lophocolea heterophylla (Schrad.) Dum., Dale, Pembroke (45), March /07, A.B. "New to v.c. 45."

Lophocolea alata Mitt., c.per., on damp earth under trees, Lewes, Sussex, Dec. 17, /07, W.E.N. (See Journ. of Bot., July 1907, p. 258). "New to Sussex."

Harpanthus Flotowianus Nees, Ben Lawers (88), Aug. /07, H.H.K.

Saccogyna viticulosa Dum., Stock Ghyll Force, Westmorland (69), May /07, E.A.

Cephalozia hibernica Spruce, O'Sullivan's Cascade, Killarney, Aug. /06, J.B.D.

Cephalozia reclusa (Tayl.) Dum., on rotten stump, Tyn-y-groes and Dolgelly, Merioneth (48), Sept. /07, D.A.J.

Cephalozia fluitans (Nees) Spruce, Wybunbury Bog, Cheshire (58), Aug. /07, D.A.J.; also Banc-y-Llyn, near Llandebie, Carmarthen (44), Oct. /07, H.H.K. "New to v.c. 44."

Hygrobrella laxifolia (Hook.) Spruce, Cwm Glas Mawr, Snowdon (49), April /07, D.A.J.; also, Ben Lawers (88), Aug. /07, H.H.K.

Prionobolus Massalongi (Spruce) Schffn., on moist trap rocks and earth near the sea, Carbiss Bay, W. Cornwall (1), April /07, W.E.N.

Cephaloziella stellulifera (Tayl.) Schffn., Wolstonbury Hill, Sussex, March /06, W.E.N.

Cephaloziella integerrima (Lindb.) Spruce, damp sandy ground, St. John's Common, Crowborough, E. Sussex, Oct. 20, /06, W.E.N. "New to v.c. 14." (See Journ. of Bot., Feb. 1907, p. 66, and Spruce on *Cephalozia*, p. 66).

Cephaloziella patula (Steph.) Schffn., Chalk Downs, near Lewes, E. Sussex, Dec. /07, W.E.N. "New to v.c. 14." (See Journ. of Bot., July 1907, p. 279, and Mr. Nicholson's translation of Prof. Schiffner's Latin diagnosis at the end of this Report).

Kantia Sprengelii (Mart.) Pears., Marloes, Pembroke (45), May /07, A.B. "New to v.c. 45."

Bazzania trilobata (Wahl.) Trevis., Llanfrothen, Merioneth (48), Nov. /07, S.J.O.

Lepidozia Pearsoni Spruce, Croesor, Merioneth (48), March /07, S.J.O. and D.A.J.

Blepharostoma trichophyllum Dum., Sawdde Fechan, Carmarthen (44), Sept. /07, H.H.K. "New to v.c. 44."

Scapania compacta (Roth) Dum., c.fr., South Devon (3), March /04, leg: Dr. Cavers, comm: W.I. "New to v.c. 3."

Scapania subalpina (Nees) Dum., River Gwydderig, Llandovery, Carmarthen (44), Nov. /07; also, Killin (88), Aug. /07, H.H.K. "New to v.c. 44."

Scapania aspera Bernet, Kidder's Dale, Derbs. (57), Aug. /07, S.J.O.

Scapania nemorosa (L.) Dum., c.per., Stock Ghyll Force, Ambleside, (69), May /07, E.A.

Scapania uliginosa (Swartz) Dum., Llyn y Cwn, Glyders, Carnarvon (49), April /07, S.J.O. and D.A.J.

Radula Lindbergii, Gottsche, Ben Lawers (88), Aug. /07, H.H.K.

Madotheca lavigata (Schrad.) Dum., Killarney, Aug. /06, J.B.D.; var. *obscura* Nees, wood near Portmadoc, Carnarvon (49), Dec. /07, D.A.J. "I think that this is rightly placed to var. *obscura*, but it is not a particularly well-marked specimen. In characteristic examples the plant is hardly, or not at all, shiny. Nees' description is, 'saturate viridis, opaca, elongata, ramis laxis subpinnatis, foliorum lobo superiori apiculato obtusove subintegerrimo, inferiori usque ad dimidiam latitudinem superioris protense acutiusculo spinuloso-dentato repandove, amphigastriis ovatis subdentatis.' *Eur. Leb.* Vol. 3, p. 166, 1838. It is a plant of shady ground and has the angles of the leaf-cells less thickened than in the type." S.M.M. "New to v.c. 49." Var. *Thuja* Nees, Black Cap, near Lewes, E. Sussex (14), May /05, W.E.N.

Madotheca Thuja (Dicks.) Dum., Harlech (48), June /07, S.J.O.

Madotheca platyphylla (L.) Dum., Symonds Yat, W. Glo'ster (34), Jan. /07, E.A.

Madotheca Porella (Dicks.) Nees, boulders in Dinas River, Harlech, Merioneth (48), Sept. /07, D.A.J. "New to v.c. 48."

Cololejeunea calcarea (Lib.) Schffn., Allt a Mhoirneas, Loch Tay, Perth. (88), Aug. /07, Ll.J.C.

Lejeunea Holtii Spruce, Torc Cascade, Killarney, Aug. /06, D.A.J.

Microlejeunea ulicina (Tayl.) Evans, on tree trunks in gorge of R. Hodder below Whitewell, W. Lanes. (60), April /06, A.W.

Frullania germana Tayl., St. Ishmael's, Pembroke (45), Feb. /07, A.B. "New to v.c. 45."



DESCRIPTIONS of NEW and RARE SPECIES.

***Barbula Nicholsoni* Culmann.**

The following is a translation of the Latin diagnosis by Dr. Culmann: *Revue Bry.*, 1907, p. 100.

Dioicous, female flowers terminal, male flowers and fruit wanting. Habit of *Barbula rigidula* or *spadicea*; tufts brownish or olive-green; stem 1 to 2.5 cm. long, furnished towards the apex with numerous paraphyses, straight branched, central strand distinct, cortical cells incrassate, intermediate cells collenchymatous. Leaves when moist recurved, finally erect, almost incumbent, lanceolate from an ovate base, acute, margin revolute except at the apex; marginal cells in two layers to the apex. Upper cells of the leaves scarcely incrassate, densely covered with low papillæ, small (lumen 0.006 mm.) roundish, lower cells quadrate or shortly rectangular, 0.008 to 0.009 mm. broad, and of equal length, towards the base two or three times longer, not or slightly incrassate. Nerve thick, prominent at the back, confluent at the apex with the incrassate marginal lamina. Prominent thin-walled cells, ("deuter cells") four or five, distinct, supported by a bundle of small thick-walled cells ("stereid cells") in one or two layers.

***Riccia pseudo-Frostii* Schffn.**

Monoicous. Thallus twice as large as in *R. Hübeneriana* and of very different appearance, very similar to that of *R. Frostii*, 5—7 mm. long, and 1 mm. broad, thick, yellowish green to pure green on both sides, reddish here and there on the tolerably sharp and thin margins, pitted on the upper surface in the older part with numerous air-spaces open above, variously and not very regularly divided, spreading in fan- or rosette-shaped rosettes 1—2 cm. in diameter, branches numerous, in part arranged closely parallel to one another and in part overlying one another with rounded and emarginate ends. Transverse section quite different from that of *R. Hübeneriana*, one-and-a-half to twice as broad as high, convex below; the abruptly perpendicular sides pass into shallow arcs in the feebly indicated horizontal wings. Upper side with a slight channel diminishing

backwards. Spores rather larger than in *R. Hübeneriana* (65—75 μ diameter), but otherwise as in this species.

(Translated from Dr. L. Rabenhorst's Kryptogamen-Flora von Deutsch. Oest. und der Schweiz—Die Lebermoose von Dr. K. Müller, p. 208).

Cephaloziella patula (Steph.) Schffn.

C. Baumgartneri Schffn.

Pseudo-dioicous. Dull green to blackish; stem 5—10 mm. long, flexuose, radiculose, sterile stems slender, leaves close, incurved above, broader than the stem to twice as broad, oval or rotundo-quadrate, divided to below the middle; sinus acute, rectangular or sub-acute, lobes often sub-connivent, triangular, acute, in the smaller leaves of the base 4 cells wide and in well-developed leaves 6—8 cells wide. Stipules none. Cells very large for the genus, sub-rectangular, in the lower leaves of the stem strongly and regularly incrassate, those of the upper leaves often scarcely incrassate with slender walls. Small oval hyaline gemmæ (rarely singly) occur. Female inflorescence on elongate branches, leaves strongly accrescent above, sub-involucral leaves free, with entire margins, involucral leaves bifid to one third or one half, entire, or here and there sub-denticulate; bracteole large, truncate or bidentate at the apex, connate with the involucral leaves. Perianth pentagonal-prismatic, crenulate at the pale mouth. Male amentula inserted on elongated branches, perigonal leaves approximate similar to the stem leaves, but larger, with wider acute lobes, margins entire, stipules none. Antheridia solitary.

Translated from Prof. Schiffner's Latin diagnosis of *C. Baumgartneri* in "Die bisher bekannt gewordenen Lebermoose Dalmatien's" (Verh. der K. K. Zool.-bot. Ges. in Wien LVI., 1906, p. 273). As to the identity of *C. patula* and *C. Baumgartneri* see my notes in Jour. of Bot., 1907, p. 279.

Lophozia Baueriana Schffn. (Kritische Bemerkungen etc. Prag., 1903, p. 9, et Hepaticæ europææ exsiccata, ser. III. No. 106, 1904.)

Dioicous, broadly tufted, decumbent or rarely erect, 3—8 centimetres high, 1—2 mm. broad, with the leaves fuscous green—ferruginous—rarely yellowish green. Stem most often decumbent, occasionally erect, sparingly branched, with numerous radicles.

Leaves rather dense, obliquely inserted, distichously and flatly distant or more or less turned towards the apex, slightly decurrent, rather irregularly shaped and lobed, rotundo-quadrate, as broad as long, generally symmetrical or the ventral side slightly longer than the dorsal side, generally four-lobed to $\frac{1}{4}$ or $\frac{1}{5}$, sinus broad and obtuse or narrow and acute, more or less gibbous, lobes generally convex, sometimes concave, acuminate-obtuse, all or at the least some furnished with a hyaline point of one or many cells, of equal size or of rather unequal size, lateral lobes smaller than the median, bearing at the ventral base 2 to 3 cilia; all the cells of the leaf almost equal, in the middle of the leaf rotundo-quadrate to hexagonal, 0.02 to 0.027 mm. in diameter, trigones slightly to well-developed. Stipules large, bifid, filiform at the apex, provided at the base with filiform cilia. Gemmæ rather commonly present, sometimes numerous in beautiful reddish masses, growing from the margin of the apical leaves, angular, very often quadrangular, 0.02 to 0.027 mm. in diameter. Male plants exhibiting several antheridia separated by leaves; bracts saccate at the base, strongly unsymmetrical, ventral lobe largest and broadest, the rest of the lobes on the contrary always smallest towards the dorsal side. Perichæatial leaves more lobed, lobes generally bearing longer hair-points. Perianth shortly and thickly ovate, very plicate in the upper part, very fimbriate at the contracted mouth.

Translated from the Latin diagnosis in "Die Moose des Särckgebietes" by H. W. Arnell and C. Jensen, Stockholm, 1907, p. 109.

{ **Prionolobus Massalongi** (*Schffn.*)
 { **Cephalozia Massalongi** *Spruce*.

Differs from *C. elachista* in the dioicous inflorescence, taller stature, and elongate stem leaves, almost bipartite lobes distantly strongly spinulose; stipules everywhere present, subulate or lanceolate, entire or bifid, subspinulose.

Translated from the Latin diagnosis in "On Cephalozia" by R. Spruce, Malton, 1882, p. 71.

P. Massalongi differs from *P. Turneri* in the thin-walled cells, the presence of stipules and the more or less papillose cuticle, and from *P. dentatus* in the longer stems, absence of reddish colouring, the leaves not accrescent and the papillose cuticle. Note by W.E.N.

CENSUS CATALOGUE OF BRITISH MOSSES.

Review by "Journal of Botany," Nov. 1907.

"The recently published Census Catalogue of British Mosses (York : Coultas and Volans, 63 pp. price 1s. 6d., or 2s. interleaved), compiled by Members of the Moss Exchange Club, is a valuable and useful addition to bryological literature. It provides an almost complete record of the distribution of each species and variety, and is the result of much patient research and careful revision. By means of a series of indicative numbers, this distribution is recorded against each of the 619 species and their varieties throughout the 112 Watsonian Vice-County Divisions of Great Britain and R. Lloyd Praeger's 40 County Divisions of Ireland. This record must prove of the greatest value to local collectors, as showing the ascertained flora of each Division, and as revealing the Districts which call for further investigation. Explanatory notes are supplied by Mr. W. Ingham and by Mr. H. N. Dixon, and are followed by a Table of the County Divisions with their reference numbers and their boundary limits. The very numerous sources from which the Catalogue has been compiled are duly set forth in detail, carefully arranged in a geographical sequence. This Bibliography forms an almost exhaustive record of the very scattered papers on British Bryology, and includes also references to many manuscript lists."—A.G.

